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SUITE 1400				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/030,692	<b>Applicant(s)</b> MULLER ET AL.
	<b>Examiner</b> /Mark L. Berch/	<b>Art Unit</b> 1624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 16 April 2008.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-19,29,31,33-40,42,43,45-49 and 51 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 1-13,29,31,33,34,37,40,42 and 45-49 is/are allowed.  
 6) Claim(s) 14,16-19,35,36,38,39 and 43 is/are rejected.  
 7) Claim(s) 15 and 51 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-1442)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date: _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/16/2008 has been entered.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 16, 18 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. Evidence that claims 16 and 18 fail to correspond in scope with that which applicant(s) regard as the invention can be found in the reply filed 04/16/2008. In that paper, applicant has stated that these claims have certain text, and this statement indicates that the invention is different from what is defined in the claim(s) because the claims have a different text.

See MPEP 2172(II). The remarks indicate that the claims do not have what applicants regard as their invention. Page 22 quotes an excerpt from claim 16, showing

that the claim is dependent on claim 14. However, the claim 16 as presented is independent; the text quoted there is simply no longer in the claim. The same is true of claim 18, which as presently constituted is not dependent on claim 14. Further, claim 18 no longer has any label "XLIII" present. In addition, the R41 definition starts correctly, but then has "with the CO group being directly attached to a carbon or nitrogen atom of R41...." This is text which is not present and was not present previously for that matter. More discrepancies appear in section b) further on page 22. The examiner understands that this is all what applicants intend, but it is not what the claims currently have. These are only partial quotes, so there may be other discrepancies as well. At any rate, the examination must be done on the basis of the claim language as actually written, and not as fragmentarily quoted in the remarks, and arguments based on claim language not actually present cannot be given any weight.

Claims 18, 36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The new formula XLIIIii constitutes new matter. It misunderstands what is in the specification. According to this new formula (which does not exist in the specification), a linker L lies between R41, the chiral ditertiary diphosphine, and the CO. The definition of this linker L is taken from page 32, lines 11-12. That text says: "the CO group being directly attached to ... or to an oxygen or nitrogen atom or to a carbon atom of a bridging group of the diphosphine skeleton. Examples of suitable bridging groups include -O-, -NH-,

C1-C6-alkylene-, -N(C1-C4-alkyl)-, -O-....” Thus, the list that appears is not a group which lies between the chiral ditertiary diphosphine, and the CO, but is instead a “bridging group of the diphosphine skeleton”. That is, if the diphosphine were R<sub>2</sub>P-A-PR<sub>2</sub>, then the “bridging group of the diphosphine skeleton” would be A. That is, the list which appears on those lines is not a group which lies between the chiral ditertiary diphosphine, and the CO, but is part of the diphosphine itself.

Claims 36 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The definition of R41 requires that it be chiral. However, the new text added to the claim says “...achiral or chiral...”, introducing a discrepancy. This discrepancy can be resolved by making the two the same.

Claims 16-18, 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 now has “polar alcoholic reaction medium” and claim 18 has “polar aqueous...”. The purpose of the “polar” is unclear. Alcohols and water are both polar solvents. Thus, the reaction media would already be polar by the normal meaning of the term. Therefore, the intention of the term is unclear.

Claim 43 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the

relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

An error can be corrected provided that there is not "reasonable debate" as to what the correct text would be, *Novo Industries, L.P. vs. Micro Molds Corp.*, 350 F.3d 1348, 69 USPQ2d 1128 (2003). Here, clearly there is more than one possibility, as was the case in *Novo Industries* as well. In such a case, one must show that one of ordinary skill in the art would have been able to determine for sure what was intended, *Ex parte Brodbeck*, 199 USPQ 230. See also *Central Admixture Pharmacy Services Inc. v. Advanced Cardiac Solutions P.C.*, 82 USPQ2d 1293, where the criterion was "whether the error and its correction would both be clearly evident to one of skill in the art". Similarly, MPEP 2163.07 states that correcting an error without introducing new matter requires "one skilled in the art would not only recognize the existence of error in the specification, but also the appropriate correction." Such a burden has not been met.

The "heterocycloaliphatic" claim 43 had been ambiguous. It could have meant a) "Cycloaliphatic" substituted by a heteroatom, e.g. amino-cyclohexyl (an example of this is US 20070197589 ), b) "Cycloaliphatic" attached by a heteroatom, e.g. cyclohexyloxy c) a heterocycle attached to an aliphatic group, i.e. Heterocycle-aliphatic? Applicants choose yet another option, which is a "cycloaliphatic" compound as defined above with at least one heteroatom located in the cycle, and has now placed that definition into the claim, removing the ambiguity. However, that is new matter. On what basis was that choice made rather than any other the other three? The choice appears to be completely arbitrary. Applicants previously supplied two references in this regard, but neither one of them uses the term in question. Applicants next pointed to Page 13, lines 19-25. However, the term in question,

"heterocycloaliphatic", did not appear on those lines. The term which appear does not have "aliphatic" in it. Further, the terms which do appear are not themselves defined. There are only examples given. Now applicants point to page 12, paragraph 1 and 3, "when read together". This is of no avail. Paragraph 1 discusses heterohydrocarbon, heterocycloaliphatic, heterocycloaliphatic-aliphatic, heteroaromatic, heteroaromatic-aliphatic, and heteroradical. The term "heterocycloaliphatic" is not defined; all we are told is that it falls into the category of heterohydrocarbon. Paragraph 3 gives examples for heterohydrocarbon (which examples do not include the use of the term "heterocycloaliphatic"), and preferred parameters for heteroradicals. The paragraph does not mention heterocycloaliphatic, and hence cannot be said to give any guidance on that term at all. Accordingly there is no descriptive support for the material placed into claim 43. The term could just as well refer to e.g. a cycloalkyl substituted by a heteroatom.

The examiner must point out in this regard that the evidence of the specification actually leans somewhat against the interpretation of the term which applicants have inserted into claim 43. The descriptive support for claim 43 comes from the first paragraph on page 12, which end with the ambiguous "...the heteroradicals contain at least one heteroatom selected from the group comprising ·O·, ·S· and ·N· and preferably ·O· and ·N·." The first term in the paragraph is "heteroalkyl". A heteroalkyl group, however, has no ring. This mitigates against the possibility that the intention of the specification was that the atom be in a ring. It does not, however, mitigate against e.g. choice a) given above.

Claims 14, 17-19, 35-36, 38-39, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 14, applicants have reinstated the term "ditertiary diphosphine". The term also appears in claim 18, where R41 is the monovalent radical formed from ditertiary diphosphine, so the same problem arises. The "monovalent radical" part is not a problem in claim 18. The term has also been inserted into claim 16, but there a formula occurs so that the formula sets the scope of the claim. The term has been inserted into independent claim 19, although the remarks make no reference to this.

The problem is as before: What does the term mean? What does the term embrace?

Despite all the discussion, applicants in their most recent remarks have not set forth specifically what the term means, although applicants have added a new sentence to the discussion, which ultimately is of no value. The examiner has named some specific groups and asked whether these are embraced, and as yet these have not been addressed. If applicants would insert into the claims an unambiguous definition of the term, that would completely resolve the matter, provided that it had descriptive support and does not conflict with what appears in dependent claims.

Would that include (t-butyl)PH-PH(t-butyl)? It is a diphosphine and it does have tertiary groups (the t-butyl) and it does have two hydrocarbon radical. The adjective here, tertiary, could refer to the P, but it could just as well refer to the substituent on the P. The t-butyl is a tertiary group; the "t-" in t-butyl stands for tertiary. Thus, in the term "ditertiary diphosphine", the "tertiary" could be talking about the nature of the P atom, or it could be talking about the nature of the substituent on the P atom. In the former case, then, no, (t-butyl)PH-PH(t-butyl), is not ditertiary. But in the latter case, (t-butyl)PH-PH(t-butyl) is ditertiary because it has two tertiary substituents (t-butyls) present in the molecule.

Applicants state:

"However, is it not the case that a molecule RNH<sub>2</sub> is called a "primary amine"? Is it not the case that a molecule R<sub>2</sub>NH is called a "secondary amine"?

Is it not the case that a molecule R<sub>3</sub>N is called a "tertiary amine"?

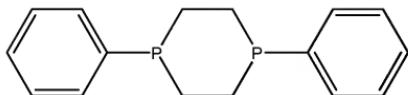
Is it not the case that in each case the adjective refers to the nature of N-atom (being bound to three C-atoms) and says nothing about the nature of the radical R?"

Applicants are entirely correct about the description of amines. There is a well understood convention in that area which is exactly as described, which limits what the "primary" etc refers to. However, so far as the examiner is aware, there is no such limiting convention for the use of the terms primary, secondary and tertiary in the diphosphines. If applicants wish to have the "tertiary" refer only to the P atom itself, applicants must actually put such a limitation into the claims. Applicants have cited US 6683206 in this regard, but it is not seem how this reference sheds any light on this exact issue.

But that is not the only problem, as has been discussed. Applicants present no new definition of what they mean by this term, so the examiner will still rely on the previous version.

The context here was whether this includes choices such as (Methyl)<sub>2</sub>P-P(methyl)<sub>2</sub> or (Methyl)P=C=P(methyl) or (Methyl)P=P(methyl) or (Methyl)P=CH-HC=P(methyl). It would be extremely helpful if applicants were to state whether each of these (and diphenyl diphosphacyclohexane, discussed below) fall within the ambit of "ditertiary diphosphine", and if not, why not.

Applicants earlier that what they intended  $R_2P\cdot R\cdot PR_2$ , where R is a hydrocarbyl group, and to support this applicants say: "according to IUPAC nomenclature under phosphines, tertiary phosphines are characterized by the structure  $R_3P$ , wherein R means a hydrocarbyl group." But this is contradictory. If a phosphine is  $R_3P$ , wherein R means a hydrocarbyl group, then neither P atoms in  $R_2P\cdot R\cdot PR_2$  qualifies, since each P has two hydrocarbyl groups, and a third group, the  $-R\cdot PR_2$ , which is not a hydrocarbyl group, since a hydrocarbyl group has just H and C. Applicants cannot point to a definition, and then turn around and propose a structure that violates it. Further, while the terminal R groups are supposed to be hydrocarbons according what applicants say, claim 18 violates this notion by referring to  $R_{41}$ , which is "a monovalent radical of a chiral ditertiary diphosphine" as potentially having a N atom present! And claim 16 has the bridging group (there called  $R_d$ ) which contains an iron atom. How could something which contains an iron atom be called a hydrocarbyl group? A hydrocarbon cannot have a N atom present. Second, even ignoring that, what is the "ditertiary" doing? According to applicants reason,  $R_2P\cdot R\cdot PR_2$  would be a diphospine, a molecule with two phosphine pieces. For all one knows, the tertiary refers to a carbon --- that is, e.g.  $(t\text{-butyl})P(\text{methyl})\cdot CH_2\cdot P(\text{methyl})(t\text{-butyl})$ ? This is a diphosphine with the additional feature of having two tertiary carbons. Indeed, since the definition of phosphine which applicants have presented already requires that each P be attached to three carbons, it would be logical to assume that the additional requirement of "ditertiary" must be referring to a tertiary carbon. Third, applicants have selected a molecule with one bridge (the  $-R\cdot$ ) and two terminal units, the R2 on each side. But applicants could just as well have chosen a compound with two bridges and one terminal group, e.g.:



(diphenyl diphosphacyclohexane). In addition, applicants have not really eliminated other choices. For example, (Methyl)<sub>2</sub>P-P(methyl)<sub>2</sub>, cited above, is called tetramethyl diphosphine. As evidence, the examiner cited 4133831. See Column 5, structure 6, and the text at lines 46-48 which says, "The phosphine compound of the formula (6) may be selected from, for example, the group consisting of tetramethyl diphosphine", which is structure (6), with all R groups as methyl. Applicants in short have presented no compelling argument in favor of their choice, which appears as arbitrary and in fact in violation of the very reference they have cited for support.

The earlier traverse was unpersuasive. Applicants say that the bridging group R does not have to be a hydrocarbon. But applicants cannot hold to that stance and simultaneously rely on a narrow definition of phosphines which does require hydrocarbon.

Applicants also stated, "The Office Action again repeats various incorrect selections for structures purported to be a ditertiary diphosphine. Structure (a) (t-butyl)PH-PH(t-butyl) is a diprimary diphosphane. Structure (b) (Methyl)<sub>2</sub>P-P(Methyl)<sub>2</sub> is a dissecondary diphosphane. Structures (c) (Methyl)P=C=P(Methyl) and (d) (Methyl)P=CH-CH=P(Methyl) contain P/C double bonds (such as imines). Structure (e) (Methyl)P=P(Methyl) has a P/P double bond. Moreover, the Office Action has not provided any evidence that the various speculative structures fall either under the terms "ditertiary" or "diphosphine." No evidence is provided that any of the speculative structures are, if existent, named ditertiary diphosphines."

The examiner is at a loss to understand applicants' earlier discussed nomenclature, which was used to dismiss these phosphines.

First, applicants draw a non-existent distinction between phosphine and phosphane, saying e.g. "the compound ... is a phosphane and not a phosphine." This is entirely mistaken. The two mean the same. The reference "Phosphine From Wikipedia, the free encyclopedia" is cited which says "Phosphine is the common name for phosphorus hydride (PH<sub>3</sub>), also known by the IUPAC name phosphane". Thus Phosphine = phosphane. Similarly, the reference "Index by Molecular Formula" gives for H<sub>4</sub>P<sub>2</sub>, "Diphosphane; diphosphine", indicating that the two are the same. Likewise, the reference "diphosphane (CHEBI:35880)" lists diphosphine as a synonym. Thus, Diphosphane = diphosphine.

Second, applicants have their adjectives incorrectly understood. Applicants state: "Structure (a) (t-butyl)PH·PH(t-butyl) is a diprimary diphosphane. Structure (b) (Methyl)<sub>2</sub>P-P(methyl)<sub>2</sub> is a disecondary diphosphane." Neither statement is correct.

Phosphane (or phosphine) is PH<sub>3</sub>. "Primary" is one. A primary phosphine has one H replaced on the P. Secondary is two. A Secondary phosphane has two H atoms replaced on the P. As evidence, the examiner cites the "phosphine" reference which states this explicitly: "in primary, secondary, and tertiary phosphines, one, two, and three hydrogen atoms have been replaced by organic combining groups." Thus, in Structure (a) (t-butyl)PH·PH(t-butyl), as a phosphane, this would be a disecondary diphosphane, because each P has two hydrogens replaced. Similarly, (b) (Methyl)<sub>2</sub>P-P(Methyl)<sub>2</sub> is a ditertiary diphosphane, not a disecondary diphosphane, because each P has had three of its H atoms replaced.

Further, applicants are missing the point that the examiner makes here. The adjective here, tertiary, could refer to the P, but it could just as well refer to the substituent

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on the P. The t-butyl is a tertiary group; the “t-“ in t-butyl stands for tertiary. Thus, in the term “ditertiary diphosphine”, the “tertiary” could be talking about the nature of the P atom, or it could be talking about the nature of the substituent on the P atom. In the former case, then, no, (t-butyl)PH-PH(t-butyl), is not ditertiary. But in the latter case, (t-butyl)PH-PH(t-butyl) is ditertiary because it has two tertiary substituents (t-butyls) present in the molecule.

As further evidence, the examiner cites the Liddle reference, which says in the abstract “... the known ditertiary diphosphane (Mes<sub>2</sub>P)<sub>2</sub> ...”. Therefore, applicants statement “Structure (b) (Methyl)<sub>2</sub>P-P(Methyl)<sub>2</sub> is a dissecondary diphosphane” is mistaken.

In addition the examiner cites the Andrews reference, which refers to “the dissecondary diphosphane, 4”. As can be seen from the structure directly above, compound 4 has the form RPH-PHR. Therefore applicants statement “Structure (a) (t-butyl)PH-PH(t-butyl) is a diprimary diphosphane” is likewise mistaken.

Third, applicants state: “Structures (c) (Methyl)P=C--P(Methyl) and (d) (Methyl)P=CH-CH=P(Methyl) contain P/C double bonds.” This is correct, but so what? As noted above, the primary/secondary/tertiary distinction is based solely on the number of H atoms removed.

Next, applicants state, “Moreover, it is important to note that the ditertiary diphosphines used in the process of this invention are ligands forming metal complexes with 5- to 10-membered rings. Absolutely none of the structures (a) to (e) can form 5- to 10-membered rings due to the number of atoms in the chain (2 or 3) or due to the stiffness of the P/C double bonds in structure (d).”

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Except for claim 19, this is not true for the claims rejected above. These claims have no such ring requirements. The ligands are not even required to be bidentate.

With regard to claim 19, it is agreed that compounds with a direct P-P bond will not form such a ring. However, the issue would still arise with (Methyl)P=CH-CH=P(Methyl), which should be able to form such a ring. And even if it did not, (Methyl)P=CH-(CH<sub>2</sub>)<sub>1-2</sub>-CH=P(Methyl) would present the same issue and surely will be able to form such a ring.

In addition, there is the compound with two bridges and one terminal group, the diphenyl diphosphacyclohexane drawn above. That is, applicants have assumed that the compound must be of the form having each P attach to one bridge atom and two terminal groups. Yet, there is no apparent reason why a compound with two bridges and one terminal group would not also qualify.

In response, applicants earlier stated, "However, nothing in the record would lead one of ordinary skill in the art to take the depicted structure as a ligand of the present claims. One of ordinary skill in the art would have readily understood that in the depicted structure the complexing P atoms are opposite and cannot form a ring with the metal atom." Applicants give no reason at all for such conclusions, and the statement simply isn't true. The compound listed, called diphenyl diphosphacyclohexane, appears to meet the definition of a ditertiary diphosphine, and is in fact a known ligand for forming catalytic metal complexes. The examiner cites 5028734 (see last species in claim 4) and 4739110 (see column 3, line 42) and 5869738 (see column 9, lines 48-49), merely as some examples of this molecule, being taught as a ligand on metals. The examiner understands from the remarks that applicants do not intend such compounds. However, such compounds do meet the claim language, they will form complexes even for the requirements of claim 19,

and hence are embraced. When the claim embraces material which applicants do not intend, then the "the subject matter which the applicant regards as his invention" requirement of the statute has not been met.

The examiner believes it would be helpful if applicants were to use a structural formula to convey what they intend, because at the present time, the claim language is unclear and does not line up with what applicants state that they intend. Applicants have stated that they intend  $R_2P-R-PR_2$ , where R is a hydrocarbyl group. But their current claim language simply does not convey this. Indeed, claim 16 uses the ditertiary diphosphine term, and yet presents a formula in which the assorted R groups are not hydrocarbons. Second, that structure has exactly one bridge between the P atoms. But the claim language has no such requirement. The claim language is consistent with a structure having no bridges e.g. tetramethyl diphosphine ( $(Methyl)_2P-P(methyl)_2$ ) or having two bridges e.g. diphenyl diphosphacyclohexane, depicted above. The other problem has to do with the term "tertiary". In a compound having hydrocarbon group and having a P atom, the "tertiary" could apply to either the P atom (to which the hydrocarbon is attached), or to a hydrocarbon group (to which the P is attached). The examiner understands from the remarks that applicants intend to the tertiary to apply only to the P atom, the claim does not state that. Further, there is the problem discussed above that applicants have an incorrect view of the meaning of the term "tertiary". Thus, what applicants have stated that  $(Methyl)_2P-P(methyl)_2$  is a secondary phosphine, the art calls it a tertiary phosphine, as noted above.

The most recent remarks shed little light on this. Page 26, last sentence, says "each phosphine in a ditertiary diphosphine is a tertiary phosphine..." But in diphenyl

diphosphacyclohexane as noted above, each P atom is tertiary and yet this molecule does not fit the formula R<sub>2</sub>P-R-PR<sub>2</sub> which applicants state that the term means. Similarly, (methyl)<sub>2</sub>P-P(methyl)<sub>2</sub> likewise has each P atom as tertiary, and yet applicants have explicitly stated that this molecule is not intended.

The most specific addressing of what this term means occurs in the remarks on page 22, which state, "That means claim 14 claims a ditertiary diphosphine, which more specifically can be a ditertiary diphosphine of formula (IV) according to claim 16, or can be a ditertiary diphosphine which is bound to a water-soluble group in a specific and defined way according to claim 18."

First, this is based on the assumption that claims 16 and 18 are dependent on claim 14, which is not the case. Second, the "...which more specifically can be..." is non-limiting. Even if it can be those items, what else can it be? There is no way of knowing what other things it can be which do not fall within claim 16 or claim 18. Thus, it is silent on whether diphenyl diphosphacyclohexane is included, as that molecule falls in neither claims 16 and claims 18.

#### *Claim Objections*

Claims 15, 51 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, THIS ACTION IS MADE

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FINAL even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Mark L. Berch/ whose telephone number is 571-272-0663. The examiner can normally be reached on M-F 7:15 - 3:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on (571)272-0661. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark L. Berch/

Primary Examiner

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5/21/2008